



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,595	07/20/2000	Takanobu Takeuchi	194630US2	3689

22850 7590 04/23/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LAO, LUN S

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 04/23/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,595

Applicant(s)

TAKEUCHI, TAKANOBU

Examiner

Lun-See Lao

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01-23-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action response to the provisional election filed on 03/08/2004. Claims 1-6 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Regarding claim 4, the phrase "a second fixed potential" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2643

5. Claim1 is rejected under 35 U.S.C. 102(e) as being anticipated by Van Halterren (US PAT. 6,084,972).

Consider claim 1 Van teaches an electret (see fig.1A, 2) capacitor having first and second electrodes;

an amplifier (110) with which voltage generated between said first and second electrodes of said electret capacitor (2) is amplified and then outputted; and

a capacitor (8,9) having a first electrode to which the output of said amplifier (110) is applied, and a second electrode connected to said first electrode of said electret capacitor(2) (see col.2 line 35-col.3 line 50).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Halterren et al (US PAT 6,084,972) in view of Weber (US PAT 4,491,972).

Consider claim 2 Van teaches the microphone unit of the amplifier comprises:

a first transistor (see fig.1A, 110) having a first current electrode, a second current electrode (17) connected to said second electrode of said electret capacitor (8,9), and a control electrode connected to said first electrode of said electret capacitor; a current source connected to said first current electrode of said first transistor (110)

Art Unit: 2643

(see col.2 line 38-col.3 line 50); but Van fails to teach an inverting amplifier having an input terminal connected to said first current electrode of said first transistor.

However, Weber teaches an inverting amplifier (see 1, 160) having an input terminal connected to said first current electrode of said first transistor (162)(see col.3 lines 17-43).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van and Weber to improved an audio signal amplifier.

Consider claim 3, Van teaches that the microphone unit of the inverting amplifier comprises:

a first resistor (see fig.1, R1) having a first terminal connected to said first current electrode of said first transistor (Q4), and a second terminal; but Van fails to teach first operational amplifier having a negative input terminal connected to said second terminal of said first resistor, a positive input terminal to which a first fixed potential is applied, and an output terminal; and a second resistor having a first terminal connected to said negative input terminal of said first operational amplifier, and a second terminal connected to said output terminal of said first operational amplifier.

However, Weber teaches first operational amplifier(see fig.1,160) having a negative input terminal connected to said second terminal of said first resistor (162), a positive input terminal to which a first fixed potential (+V) is applied, and an output terminal (see col.3 lines 17-43); and

a second resistor (161) having a first terminal connected to said negative input terminal of said first operational amplifier (160), and a second terminal connected to said output terminal of said first operational amplifier (160 and see col.3 lines 17-43).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van and Weber to improved an audio signal amplifier.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Halteren et al (US PAT 6,084,972) as modified by Weber (US PAT. 4,491,972) as applied to claims 1-2 above, and further in view of Takada (US PAT 4,255,716).

Consider claim 4 Van and Weber do not clearly teach the microphone unit of current source is a second transistor having a first current electrode to which a second fixed potential is applied, a second current electrode connected to said first current electrode of said first transistor, and a control electrode to which a third fixed potential is applied.

However, Takada teaches the microphone unit of current source is a second transistor (see fig.2, 24) having a first current electrode to which a second fixed potential (-Vcc) is applied, a second current electrode connected to said first current electrode of said first transistor (23), and a control electrode to which a third fixed potential (ground) is applied (see col.2 line 29-57).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van and Weber into the teaching of

Art Unit: 2643

Takada to provide an automatic gain control circuit the output signal of which is small in distortion.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Halteren et al (US PAT 6,084,972) as modified by Weber (US PAT. 4,491,972) as applied to claims 1-2 above, and further in view of Van Der Plaats (US PAT 3,810,032).

Consider claim 5 Van and Weber do not clearly teach that the microphone unit of the amplifier further comprises a voltage follower having an input terminal connected to said first current electrode of said first transistor, and an output terminal connected to said input terminal of said inverting amplifier.

However, Van Der teaches that the microphone unit of the amplifier further comprises a voltage follower (see fig.1, (18-19) having an input terminal connected to said first current electrode of said first transistor (see fig.1,13), and an output terminal connected to said input terminal of said inverting amplifier (26, inverting amplifier signal, one goes to resistor 28 and other goes to transistor 31) and see col.2 line 10-col.3 line 62).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van and Weber into the teaching of Van der to provide an amplifier stage being controlled by the control current and whose amplification within the control range is a monotonically decreasing function of the supply current.

Art Unit: 2643

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Halteren et al (US PAT 6,084,972) as modified by Weber (US PAT. 4,491,972) as applied to claims 1-2 above, and further in view of Akino (US PAT 6,453,048).

Consider claim 6 Van and Weber do not clearly teach the microphone unit of further comprising:

- a first diode having a cathode and an anode connected to say first and second electrodes of said electret capacitor, respectively;

- a second diode having an anode and a cathode connected to said first and second electrodes of said electret capacitor, respectively; and

- a third resistor connected in parallel with said electret capacitor.

However, Akino teaches the microphone unit of further comprising:

- a first diode (see fig.1,1A) having a cathode and an anode connected to said first and second electrodes of said electret capacitor (102), respectively;

- a second diode (1B) having an anode and a cathode connected to said first and second electrodes of said electret capacitor (102), respectively; and

- a third resistor (1C,3) connected in parallel with said electret capacitor (102 and see col.4 line 55-col.5 line 20).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van and Weber into the teaching of Akino to improved an impedance converter for a condenser microphone, in which an input voice signal from a condenser microphone portion through an input terminal can be impressed at a sufficient impedance to a grid of an amplifier tube with a mutual

conductance and a sufficient voice signal can be taken out of a plate without a ham noise affected from a cathode.

Response to Amendment

11. Applicant's election with traverse of claims 7-15 in Paper No. 1 is acknowledged. Applicant' argued that the restriction is not proper. This is not found persuasive because. The examiner believes that the figures between fig.1 and figs 2-6 are two different embodiments' s invention. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species I, as illustrate in figure 1(claims 1-6);

Species II, as illustrate in figures 2-4;

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no generic claims.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include

all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Therefore, these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tomikawa (US PAT. 5,675,296) is cited to show other related to the microphone unit.

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

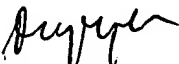
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259. The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

Art Unit: 2643

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
(703)305-2259


DUC NGUYEN
PRIMARY EXAMINER